Innovation and Organization: Value and Competition in Selection Systems

Nachoem M. Wijnberg

Abstract

New definitions are proposed for the concepts 'innovation' and 'organization' by looking at the concepts in terms of value and competition and using the framework of the selection system. Also, new definitions are proposed for 'importance of an innovation' and 'stylistic innovation'. Some results can be directly derived from the definitions, such as that economic entities can exist that are organizations in the perception of the individual members and groups of competing actors in the perception of others. Together the new definitions provide a foundation for a better understanding of not just the concepts themselves but also of the relationships between the type and importance of innovations and the most likely characteristics of successful innovators.

Keywords: selection system, innovation, organization, value, competition

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The concepts 'innovation' and 'organization' are central to organizational theory. Business organizations attempt to create value and thereby achieve competitive success. Innovating is a way of creating value and, according to many authors, starting with Schumpeter, the most important way. This leads to the expectation that these concepts have been satisfactorily defined so that the definitions are coherent with each other as well as the concepts and related concepts, and can be operationalized in a consistent manner. It would also be expected that the definitions of the two basic concepts are linked to the other two concepts mentioned — value and competition. However, reviewing the literature shows that it is surprisingly difficult to find precise definitions and even more difficult to find definitions of the two concepts that are coherent with each other.

The main aim of this paper is to show that by looking at innovation and organization from the perspective of value and competition, using the conceptual framework of the selection system, coherent definitions of these concepts can be provided and that this exercise in defining or redefining provides a sound basis for further theoretical and empirical research.

The framework of the selection system has been found to be useful in explaining the boundaries of particular competitive domains (Wijnberg 1995b) and relationships between appropriability conditions and major changes in the competitive environment (Wijnberg 1997; Wijnberg and

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Gemser 2000). This paper will attempt to demonstrate its usefulness to organizational theory on a more fundamental level. A selection system is an economic framework precisely in the sense that it starts off with an economic conception of value as something which can only be established in the context of particular sets of preferences; at the same time it is a framework suited to organizational theory because it views the process of value creation as a process in which different actors, individuals and organizations interact and attempt to influence each other.

That organizational theorists still view the concept of value as problematic can be seen, for instance, in the debates about the theoretical status of the resource-based view (Bowman and Ambrosini 2000; Priem and Butler 2001). By looking at innovation and organization from the perspective of competition and value, this paper also aims to provide more solid foundations for further use of the concept of value in organizational theory. Another secondary aim of the paper is to shed some light on the meaning of stylistic innovation and stylistic movements from the point of view of organizational theory. However, though stylistic innovation and stylistic movements are highly interesting in themselves, discussing them in this paper principally aims at highlighting some of the most crucial characteristics of innovation and organization.

In the following section the framework of the selection system will be presented, focusing on the determination of value in different competitive contexts. The section on innovations consists of three parts. The first part applies the framework of the selection system to the creation and the appropriation of the value of an innovation. A definition of product innovation will be proposed and the concept of appropriability will be discussed at some length, which will provide a basis for the later use of that concept to better understand what happens inside organizations. The second part deals with the importance of an innovation and proposes considering this importance as a function of the impact that the innovation has on the selection system. The third part deals with types of product innovation, proposing that innovations can be usefully classified by looking at the relations between producers, consumers and selectors involved in the production, consumption and evaluation of a particular type of innovation. This way of looking at innovations serves to clarify the essential differences between innovative goods and innovative services. It also serves to construct a definition of stylistic innovation.

The next section is devoted to organization, reviewing a number of earlier studies that have discussed the advantages of an organization, apart from the avoidance of transaction costs. Particular attention will be paid to tacit group learning. These advantages will be discussed in relation to the processes of value creation and value appropriation that take place in the selection system within the organization. A definition of organization will be proposed on the basis of this discussion.

One of the implications of the proposed definitions is that, under particular circumstances, a network of actors can be considered not as a hybrid between market and organization but as an organization from one perspective and a group of market competitors from another perspective. The stylistic movement is presented as an illustration of this phenomenon.

The paper closes with conclusions and implications for further research.

Selection Systems: Competition and Value

Essential to the competitive process is that there are at least two actors who are aware of at least some of the effects of each other's actions (Porter 1980) and who pursue objectives that are similar in such a way that they, and outside observers, are able to describe the outcome of the process in terms of one having done better than the other. The competitors are linked by what Porac et al. (1989: 120) describe as 'socially shared beliefs which both define the relevant set of rivals and guide strategic decisions about how to compete in this set'. The industry can be defined as the group of actors involved in a particular competitive process (Porter 1980; Wijnberg 1995a), offering goods that are comparable and that are compared in order to determine the value of each of them.

The framework of the selection system has been developed (Debackere et al. 1994; Wijnberg 1995b, 1997; Wijnberg and Gemser 2000) to describe and analyse the characteristics of particular processes of competition and competitive arenas by focusing on the characteristics of the actors who are being selected, the actors who are selecting, the selectors, and the nature of the relations between both groups. Most economics textbooks skip defining competition in a general sense and immediately progress to perfect competition: information is free, entry and exit are free, there are no transaction costs and no externalities, many producers offer products, and many consumers buy those products whose characteristics best match their preferences and means. Those producers whose products best satisfy consumers will sell the most and emerge as winners from the competitive process. In a situation of perfect competition, the consumers are the actors who effectively select the winners. There is a large body of research on market situations in which the conditions of perfect competition do not hold, especially those in which producers or consumers are few and have considerable market power. However, even in these situations producers are still being selected and consumers are selecting. Within the framework of selection systems, the case in which consumers select and producers are being selected is only one of three possible ideal typical variants of selection systems, each with a different type of selector.

The first type is the traditional type, market selection, where consumers are the selectors and producers the selected. The second type is peer selection, where the opinions of other producers, the peers, determine the outcome of the competitive process. The third type is expert selection, where competitive success or failure is determined by the opinions of a category of people who are neither consumers nor producers but to whom particular knowledge or expertise is ascribed.

In every industry a particular selection system can be identified in each context where there is a competitive process. The academic world provides an example of peer selection; ethical drugs provide an example of expert selection. The opinions of physicians, who do not produce and usually do not consume the drugs they prescribe, determine the competitive success of producers of pharmaceuticals. An actual selection system can also be a particular mix of these ideal types. The competitive process in a particular industry can then, for instance, be described as a mix of peer selection and expert selection, as is the case in many industries dealing with cultural goods (Wijnberg and Gemser 2000).

The terminology of the framework of the selection system also refines the understanding of competition itself. In the eyes of the selectors, the actors involved in a particular competitive process interact as competitors, as defined at the start of this section, but they do not need to consider themselves competitors of each other. As will be shown in a later section, this can be seen to have important consequences for the study of organizations.

Innovation

Value and Appropriability

To be successful in economic terms, producers have to create value and also to capture and protect that value. One way of creating value is by innovating. Innovation describes the activity of innovating (see, for instance, Van de Ven 1986) or the result of that activity: the innovative product or service. This paper will focus on innovation as the result of an activity, an actual product or service. Therefore, in what follows innovation will mean product innovation, not process innovation or organizational innovation.

Most texts agree that innovation should be something that is perceived to be new (Zaltman et al. 1984: 10) and should also be something new that, in contrast to the invention, is actually introduced in a market (e.g. Lipczynski and Wilson 2001). It is certainly not a defining characteristic of innovation that it be commercially successful — most are not (Freeman and Soete 2000) — but an innovation is something which at least is the subject of an attempt to prove its commercial worth. Thus, an innovation is something new which is presented in such a way that its value will be determined.

It is not enough that its value *can* be determined. Only if its value *will* be determined should it be considered an actual innovation. It is one of the central tenets of economics and microeconomics that the value of a product can only be determined within the context of a particular set of consumer preferences. In the terminology of the framework presented above, this means that the value of an innovation can only be determined within the context of a set of preferences of selectors, and therefore within a particular selection system or combination of selection systems. This means that the previous definition of innovation can be extended to:

An innovation is something new which is presented in such a way that the value will be determined by the selectors.

To be successful, the innovator not only has to produce a new product; it has to be determined that the new product has value and the innovator has been able to appropriate a significant part of this value and keep the rewards for him- or herself, and away from imitating rivals and other actors, such as firms upstream or downstream in the value system. To appropriate value the innovator needs effective means of appropriation, for instance patents or other intellectual property rights (Mansfield et al. 1981; Levin et al. 1987; Cohen et al. 2000), intragroup sanctions with respect to reputational capital (Gemser and Wijnberg 2001) or complementary assets (Teece 1986; Teece et al. 1997). Some innovators can achieve appropriability by the simple expedient of secrecy or by profiting from causal ambiguity (Reed and DeFillippi 1990).

With regard to appropriability, two points are of great importance to the argument in this paper.

First, the relative efficacy of the various means of appropriability is determined by the characteristics of the selection system (Wijnberg 1995b, 1999; Wijnberg and Gemser 2000). For instance, the patent system is considered to work by allowing innovators a temporary monopoly to appropriate the benefits of their innovation in the marketplace. The consumers will want to buy the innovation and the patent-holder can capitalize on that fact, while the legal sanctions connected to patent law keep imitators away. The efficacy of the patent system can decrease where selection systems other than market selection dominate. On the one hand, experts and, especially, peers may have interests contrary to upholding the innovator's temporary monopoly. On the other hand, another means of appropriability may prove relatively stronger, precisely because of the nature of the relevant selection system. In the peer-selected academic world, recourse to intellectual property law is extremely rare, not only because plagiarism in a legal sense is difficult to establish but primarily because sanctions connected to reputational capital provide a much stronger mechanism of control of imitation and, thus, an effective means of appropriability for innovators.

However, one has to be careful not to assume an unchanging one-on-one relationship between the efficacy of a particular means of appropriability and a particular selection system. A particular means of appropriability can often be used in more than one way, and its suitability to a particular selection system, and the resulting efficacy, can vary accordingly. For instance, as Kingston (2001) has argued, patents, especially in industries dealing with complex technologies, mainly function as bargaining chips among competitors. If the selection system determining competitive success in one of these industries was also one dominated by peer selection, the patent, in the way it functions according to Kingston's analysis, would offer a suitable means of appropriation.

Secondly, appropriability is not only an issue between competing organizations; it can also be seen as having a role to play within organizations. Though the concept of appropriability has been proposed and developed in the context of an innovator appropriating the benefits generated by an innovation, the term can be used in all situations where an actor in a competitive process creates value. An individual in an organization also inhabits a particular competitive arena, dominated by a particular selection system, and offers something, not necessarily something new, to the selectors who determine its value. Once more, competitive success again depends on the relationship between the value created by the competitor, the individual within the organization, and the value this competitor is able to appropriate.

Importance of Innovation

In the literature on innovation, the importance of an innovation is often qualified by such terms as radical or incremental, architectural or revolutionary (Abernathy and Clark 1985). Downs and Mohr (19767) have already pointed out that, if one defines an innovation as something new to the organization, the same innovation could be radical to one organization and incremental to another. However, this only means that the importance of an innovation varies with the characteristics of the adopting organization. In contrast, the definition of innovation proposed above implies that attention should be paid to the characteristics of the evaluators and that the importance of an innovation cannot be determined without specifying to whom and in whose eyes.

Discussions of the importance of an innovation in most of the literature adopt either a technological or an economic point of view. The technological point of view leads authors to study the innovation as a more or less significant step in the development of the technology itself. Examples of this approach are Esposito (1993) and Henderson and Clark (1990). The economic point of view focuses on the implications of an innovation for the relevant markets and industries, including the effects on the competences of competitors (Abernathy and Clark 1985; Tushman and Anderson 1986); in other words, on the implications of innovations on the competitive process and its results.

As the argument of this paper is based on the understanding of value as it is realized in the competitive process, it seems logical to adopt the economic point of view and define the importance of an innovation in terms of the impact on the competitive process. The outcome of the competitive process is determined by the characteristics of the relevant selection system. The selectors attribute value to innovations on the basis of their preferences. This suggests that it makes sense to define the importance of an innovation in terms of the relationship between the innovation and the selection system, the selectors and their preferences. This can be reformulated in the following definition.

The importance of an innovation is the extent to which the innovation is connected with changes in the relative valuations of products satisfying the same set of preferences, of the set of preferences, of the composition of the set of selectors or of the characteristics of the selection system itself.

These four possibilities are of course four gradations of the extent of the change effected by the innovation. The second one can, and usually will, imply the first. The third can, and usually will, include the first two, just as the fourth will usually include all the other three.

An innovation which is not observed by the selectors does not count as such. An innovation of the smallest importance — an incremental innovation

— implies that the selectors have to reconsider the relative value of products satisfying the same set of preferences. For example, the introduction of a slightly more juicy type of apple would cause shoppers at the greengrocer to consider their preferences with regard to fruit to decide whether they still want to buy three apples and three pears or would now prefer four apples and two pears. A more important innovation would cause selectors to rethink the preferences themselves. A really new type of fruit — for instance, a fruit that is suitable to be served as a main course — would cause the shoppers to reconsider what they want from fruit and base their decisions about what to buy on a new set of preferences. To add a well-known real-life example, the Apple Macintosh was a radical innovation, not because it incorporated great technological advances (although it did), but because it fundamentally changed the preferences of selectors, the set of selectors and, ultimately, the selection system dominating the industry. Because the new computer could be used apart from a mainframe, and put on a desk in an office or a home, it became important that it was relatively simple to use and, even, not too awful to look at. The later victory of the IBM personal computer over the Apple was deplored by most experts and peers — the Apple was so much more interesting from a technological point of view — but most consumers decided for themselves, on the basis of their new preferences. Ordinary consumers who wanted to use computers to help them to compose texts or play games, joined the ranks of the relevant selectors and eventually changed the selection system to one dominated by market selection.

The process of reconsidering preferences when confronted by an innovation can take more or less time. Information transfer may be slow or circumstances may not yet be propitious for the recognition of the advantages of the innovation. Some competitors will benefit from the changes in the preferences; others will be disadvantaged. However, the competitive environment can develop in completely different directions if the innovation is connected with changes in the composition of the set of selectors or the selection system itself. In the terminology of Abernathy and Clark (1985), changes in the selection system are likely to lead to the greatest measure of 'transilience', rendering obsolete existing skills, resources and knowledge.

The connection between the radical innovation and the changes in the selection system can, and usually will, work both ways. Such innovations may only prove to be successful if the innovators succeed in changing the selection system itself or if the selection system has changed sufficiently to allow for the recognition of the value of the innovation.

Types of Innovation

The most common distinction with respect to types of innovation is between product and process innovations. Organizational innovation is often added to these two basic types. As stated above, this paper focuses on product innovation and this subsection will deal with types of product innovation. There are two problems that threaten to spoil product innovation's apparent simplicity: how to deal with the differences between goods and services and how to deal with stylistic innovations, changes in the product that have no measurable technological effect but do have a significant effect on the value of the product. Most of the literature on innovation focuses on manufacturing, and the restricted view resulting from that bias has been criticized in studies of innovation in the service industries (see, for instance, Easingwood 1986; Barras 1990; Gallouj and Weinstein 1997; Avlonitis et al. 2001). The literature on innovation also focuses on technological innovation and tends to consider other innovations as less important (see, for instance, Abernathy and Clark 1985; Freeman and Soete 2000).

As will be demonstrated below, both problems can be analysed by looking more closely at the roles producers, consumers and selectors play in the course of the production and evaluation of the innovation.

First, with regard to services, one of the defining characteristics of services is the simultaneity of consumption and production. The consumer of services is by definition also a co-producer in the sense that his or her collaboration is necessary for the service product to be produced. If the consumer does not collaborate, the service product will not come into existence and have any value. If the service product is a new product, the consumer should be considered a co-innovator and a co-creator of value. Of course, Von Hippel (1988) has already stressed the importance of customers as a *source* of innovation in manufacturing industry. It is important to point out that customers can play the same role in the case of service innovations, but even when they do not, they still are co-producers and, therefore, should be considered co-innovators. With respect to service innovations, the role of selectors depends on the characteristics of the selection system. If market selection or peer selection dominates, the selectors will be producers or consumers who are co-producers. If expert selection dominates, the selectors will not be involved in the production. They will not create value, only determine value, just as in the case of innovations in goods.

The case of stylistic innovation is somewhat more complicated. It is possible to detect stylistic features in every product but, in contexts such as science (McAllister 1996) or art or fashion, the relative importance of a product's stylistic characteristics is often high. Most art historians (for instance, Schapiro 1953, Pevsner 1982), but also authors from very different fields (Simon 1975), define style in terms of how something is done if it could have been done differently. The stylistic elements of a product are the ones which can be freely chosen, the ones which could be substituted without diminishing the functionality of a product in a purely technical sense.

Gilmore (2000: 81) proposed understanding style in terms of responding to a brief. He defined the brief as '...the set of mental representations an artist has about the proper ends of his art and about the proper means for reaching those ends'.

Adopting this terminology, style is formed in response to the brief of a particular producer, and stylistic innovation is an innovative response to this brief. The brief provides the rules of the particular stylistic language and specifies the stylistically relevant subset of the producer's possible choices. However, a set of mental representations about ends and means is something which has to be constructed, consciously or not, by the person making a judgement about the stylistic innovation. Understanding what to look for in a particular style has to be learned and this is not something which can be learned from a textbook description of a particular style. To learn about a style it is necessary to contrast how things are done with how things are not done. The most common way of making this contrast is by comparing the product in question with other and earlier products belonging to the same category. Knowledge of the product category and its 'history' — in the case of cultural products, this of course means art history — allows selectors to reconstruct the brief and to see the differences.

It is important to realize that 'seeing the difference' is not only a way of reaching a knowledgeable evaluation; it constitutes in itself a form of value that can be derived from the stylistic innovation, either in the form of 'pure' aesthetic enjoyment or of the opportunity to preserve or increase social status, an issue which has been discussed extensively in the sociological literature (Bourdieu 1984; Zolberg 1990).

This means that by evaluating products against the background of the brief, the selectors not only determine value but also co-produce or co-create the value they are determining. This goes significantly further than co-production by consumers in the case of service innovations, as described above.

For instance, the value of the stylistic characteristics of a new haute couture dress is constituted precisely by the differences the relevant selectors are able to perceive between this haute couture dress and the other haute couture dresses on offer now and on offer a year ago. In the case of an haute couture dress the selectors will include primarily experts, such as the editors of women's magazines. The differences these selectors are able to perceive will determine the value the dress has for the customers and consumers, who will do their best to perceive the same differences and enjoy some of this aspect of the value of the dress. By perceiving the relevant stylistic differences the editors not only determined value, they co-produced the value of the dress.

It is not an essential characteristic of stylistic products that value can be determined by comparing products with other and earlier products from the same product category. For instance, microprocessors can be compared to establish which of them is faster at performing certain operations and, therefore, is more valuable. The opportunity to see differences does not, however, constitute part of the value of the new processor.

Above, stylistic characteristics have been distinguished from what is necessary for the functionality of a product in a purely technical sense. The aspects that are technically necessary are those aspects of a product which selectors can specify in advance and which could, in principle, be checked by other actors, or even by robots. If such other actors exist, they have a purely technical role and not an economic one; they have no personal sets of preferences. The role of the other actors still leaves selectors with the task of determining or attributing value in an economic sense. The other actors could check the speed of microprocessors, but the selectors would have to specify beforehand (a) that speed makes a microprocessor valuable and (b) which types of measurement of speed are acceptable to them. In contrast, the brief, in Gilmore's sense, concerns precisely those aspects of a product which the selectors have to evaluate themselves and with regard to which they cannot delegate judgement to other actors. Thus, the brief is the set of mental representations about the proper ends and means in respect to a particular type of product, which is the source of the preferences which the selectors cannot specify in such a way that they could have other actors perform the actual determination of how far a product satisfies those preferences.

On the basis of the preceding discussion the following definition of stylistic innovation can be proposed:

A stylistic innovation is a product, or a characteristic of a product, which is recognized by the relevant selectors as a new and legitimate response to a set of preferences which the selectors cannot specify in such a way that other actors could perform the actual determination of how far the product satisfies those preferences, and the value of which consists of the very differences the selectors perceive between the product under consideration and earlier and other products from the same category.

Organization

Sociologists and management scientists usually start looking at organizations from the inside and present definitions such as the older but still often quoted one by Barnard (1938: 3): 'A system of consciously coordinated activities ... of two or more persons.'

An important and more recent definition has been presented by Menard:

'An organization is an institutional arrangement designed to make possible the conscious and deliberate coordination of activities within identifiable boundaries, in which members associate on a regular basis through a set of implicit and explicit agreements, commit themselves to collective actions for the purpose of creating and allocating resources and capabilities by a combination of command and cooperation.' (Menard 1995: 172)

This is a well-crafted definition but it sticks to the view from inside, failing to take into proper account organization as a means to create and appropriate value in the context of a particular competitive process. Apart from this main objection, a question can be raised concerning the 'identifiable boundaries': identifiable by whom — by the members of the organization or by others? This is a pertinent question to which more attention will be paid below.

Economists usually start looking from the outside, from the perspective of markets (Kay 2000). This approach is exemplified by the work of Coase (1937), in which transaction costs, the costs incurred by making use of the market process, explain the existence and the boundaries of the organization. Coase defines the firm as the alternative to the market as a means of allocating resources: 'A firm, therefore, consists of the system of relationships which comes into existence when the direction of resources is dependent on an entrepreneur' (Coase, 1937: 393).

Coase's insight was further developed in the transaction-cost approach of Williamson (1986, 1991a, b, 1999), which has been criticized for many reasons (Kay 19921; Ghoshal and Moran 1996; Teece et al. 1997) but particularly for neglecting the advantages that organizations offer apart from providing a remedy to the costs of the market. In an important paper, Simon (1991) also argued that the boundaries between markets and organization should be explained by the sources of organizational efficiency rather than by market failure. He enumerated and discussed four such sources: authority, rewards, identification and coordination. Simon (1991) did not present an explicit definition of organization but his paper did suggest that a satisfactory definition should combine the view from the inside with the view from outside. Seen from the outside, the organization or business organization is an actor who creates and appropriates value. Value always means value according to the selectors belonging to the relevant selection system. Seen from the inside, this value is created by the members of the organization. The value that is created by the organization as a whole is distributed among the members of the organization, each of whom offers his or her specific resources to the organization. These resources have value and the individual members will attempt to appropriate this value. In this sense, the members of an organization can be considered to be in competition with each other.

Where there is a competitive process, there is a selection system. The selection system inside the organization determines the outcome of the internal process of distribution. In the context of a particular selection system, value is attributed to the resources offered to the organization by the individual members. The relative efficacy of the means of appropriability available to the members will also be dependent on the particular selection system dominating the competitive processes within the organization.

This selection system inside the organization can be different from the selection system in which the organization as a whole acts as a competitor. Firstly, there is the issue of visibility. It is often unclear who exactly decides on the basis of which criteria how much a particular CEO or CFO or secretary or driver should earn. Even less clear are the criteria on the basis of which other benefits are distributed — the company car, the many-windowed office, and so on. The issue is not that people do not know the salaries of their colleagues — though in some countries, such as The Netherlands, most people do not know exactly how much their colleagues earn and consider it extremely rude to inquire. In the terminology proposed in this paper, the selection system dominating the competitive process within an organization will usually be harder to identify and observe than the selection system dominating the markets in which the organization is active. This also means that the relative effectiveness of the means of appropriability is less easy to determine.

It is possible to argue that this fact is not accidental but essential to organizations. Open and visible competition among the members of an organization to appropriate value individually can have a highly negative impact on the sources and mechanisms underlying organizational advantages, those things that make the whole of an organization greater than the sum of its parts. If the value of everyone's resources and the efficacy of the means of appropriability available to individuals were perfectly visible, authority will be less easily accepted, rewards less gratefully received — or worse, received gratefully because the recipient and his or her colleagues both know that the recipient is being over-rewarded for his or her contribution. Identification with the organization will be more difficult for the individual who can trace very precisely his or her contribution to the organization's success. Also, if information is freely available about what each individual contributes to the value-creating process and appropriates as his or her share of the results, the chances are that it will be possible to achieve equivalent results via the price mechanism because transaction costs regarding these contributions will be low, making organizational coordination more of a burden than an advantage.

Because the characteristics of the selection system within the organization are less easy to identify, the selection system will function differently and, therefore, will *be* different from the one outside the organization. However, the differences between the selection system inside and the selection system outside are usually more extensive.

As Moran and Ghoshal wrote:

> 'Organizations in general and firms in particular counterbalance the institutional constraints imposed by markets by muting, replacing, or otherwise modifying market incentives, thereby redefining the motivation for and efficiency of the economic activities they influence. In other words, each firm creates its own unique subsidiary context, consisting of its own unique mix of incentives.' (1999: 407)

A further reason for the selection system operating within organizations to differ from the selection system in which the organization itself acts can be found in those studies that consider the creation and use of group tacit knowledge. The importance of tacit knowledge for the innovative capabilities of organizations has been pointed out before (Polanyi 1966; Nonaka 1994). As Berman et al. argued, tacit knowledge is often tacit knowledge of a group:

> 'Who, fundamentally, owns tacit knowledge? The answer is fairly simple with regard to individual knowledge, but in the setting studied here, no single individual "owns" such knowledge, since it is the product of mutual learning at the group level and is dispersed among members of the group.' (Berman et al. 2002: 28)

To preserve and increase the stock of tacit knowledge, the members of the group should not leave the group every time they perceive a chance to improve their individual situation by offering their share of knowledge and skills elsewhere. To quote again from Berman et al.,

> 'Although some of this knowledge base can be rendered in an explicit form as a kind of playbook, much of it, we submit, is in tacit form ... It depends on there being a relatively stable collection of members within the group.' (2002: 16)

Essential to group tacit knowledge is that it is a collective resource, a 'collective mind' (Weick and Roberts 1993) that serves to create more value than all the individual members, each using his or her individual knowledge, could create together and that no member of the organization can make a precise claim as to which part of the group tacit knowledge should be attributed to him or her. This again means that the selection system and attendant appropriability conditions within the organization should differ from those outside the organization and, preferably, be less visible. As has been documented many times, in the early history of successful enterprises, just as in the early history of successful sports teams, the foundation of success was created in the period in which the members of the organization seemed not to care for the distribution of eventual rewards and did not let worries about appropriability stop them from discussing new ideas or passing the ball. Managers will have to take this into account and 'manage appropriation' in organizations where tacit group knowledge is essential for innovative success (Dyerson and Mueller 1999: 634).

Of course, an organization in which individuals collaborate with a complete disregard for individual appropriability is an extreme and unlikely case. The other extreme is an organization in which every member can estimate his or her value to the organization and the fraction of this value he or she is able to appropriate within the organization just as precisely as if this member were able to sell his or her value-creating services directly to the customers of the organization. In fact, this would mean that the member of the organization would be able to know and appropriate the value of his or her contribution as determined by the selectors of the selection system in which the organization competes. Such an organization would not be an organization with meaningful boundaries in an economic sense — with regard to value creation and appropriation. It would just be a group of economic actors sharing a social, but not an economic, identity.

To return to Menard's (1995) definition, it is possible to add to it the view from the outside and the particular arguments made in this section to arrive at the following new definition:

An organization is an institutional arrangement in which members associate on a regular basis through a set of implicit or explicit agreements, which enables members to coordinate their activities to participate as a collective in a competitive process, while the individual appropriation — the distribution of the value appropriated by the collective among the members — is governed by another selection system than the selection system governing the competitive process in which the collective is involved as a unit.

Most previous studies of organization take as their point of departure that, on the one hand, there are organizations or hierarchies or bureaucracies and, on the other, there is competition and there are markets or industries. Precisely this basic dichotomy invites amendments. Ouchi (1980) added 'clans' as an alternative to markets and bureaucracies, Williamson (1991a, b, 1999) discussed intermediate or hybrid forms of governance; authors such as Powell (1990) or Jones et al. (1997) argued for the importance of network forms of organization. Imai and Itami (1984) arrived at seven basic combinations, among which figured organization-like markets and market-like organizations. Menard (1995) also discussed the existence of various forms of hybrids, resulting in a continuum between the extreme forms of pure market and pure organization.

However, none of these authors took into account the possibility that different points of view can lead to different perceptions of the same entity and that the same entity can be considered a group of competitors according to some and an organization according to others. On the basis of the definition of organization proposed above it can be argued that this is not only a possible state of affairs but also one that can have great economic significance. To draw this paper nearer to its conclusion, and also to put the definition of stylistic innovation to work, an example of such a case will be discussed: the stylistic movement.

Organization and Competition: The Example of the Stylistic Movement

Styles can be identified at many different levels of aggregation, such as the style of an individual product, of a particular producer, of producers belonging to a particular movement, of all producers of a particular area during a longer period. Examples of this last-mentioned level of style would include Ming vases or Gothic churches. While Wollheim (1995) argued that only individual style should be considered 'real' and more than a taxonomical device, even a superficial study of the relationship between art-historical labels and prices (see, for example, Frey and Pommerehne 1989; Sandler 1996) suggests that for an artist to belong to an important stylistic movement and, even more so, for a particular painting to be designated as a crucial exemplar in the history of a stylistic movement, significantly increases the value. Thus, being a member of a stylistic group or movement is of importance in economic reality and is not just a taxonomical convenience.

Members of a particular movement are clearly, in an economic sense, competitors. They are aware of each other's works and will at least consider responding to each other's significant actions with respect to product characteristics or price or even marketing. They are being judged by the same set of selectors on the basis of similar sets of criteria. However, they may stubbornly refuse to consider each other competitors and rather consider the movement as if it were an informal collaboration. About those stylistic movements that comprise, at a certain moment, the avant-garde, Crane wrote:

> 'In order for a group of artists to be defined as engaging in activities associated with the avant-garde, they must first of all have some degree of awareness of each other as a social group. As a social phenomenon, a style represents a kind of collaborative endeavour on aesthetic problems, although the intensity of social interaction varies greatly.' Crane (1987: 15)

In fact, seen from the inside, the stylistic movement has some of the characteristics, such as providing opportunity for collaboration to achieve shared goals (see e.g. Galenson and Jensen 2001: 8) usually ascribed to the organization and some of the most distinctive advantages of that mode of governance, for instance 'being a way of organizing learning and a source of capabilities for innovative moves' (Bianchi, 1995: 183) and being an entity towards which members can be loyal and with which they can identify themselves (Simon 1991). Sometimes, stylistic movements display more explicit forms of organization, such as regular collective exhibitions of the works of members of the movement, or by setting up movement-specific journals or awards. Even where these explicit forms are missing, stylistic movements often have recognizable leaders whose behaviour acts as a standard for the others and who are, or are expected to be, in a position to reward faithful followers, thereby providing a measure of coordination and control. However, while a stylistic leader may favour close followers, the selectors will put, by definition, a higher value on those products that are most different. The selection system governing the distribution of rewards within the group will be different from the selection system governing the competitive arena in which the group operates as a group versus competing groups and/or individual producers who are not members of particular movements. If this is the case, the stylistic movement is an organization according to the definition proposed in the previous section.

These organizational characteristics can be ascribed to many groups. However, they assume a particular economic significance in respect to *stylistic* groups or movements because of the particular nature of stylistic innovation, especially with regard to the interaction between producers and selectors.

Seen from the inside, the more members of a movement who consider themselves to be collaborators, not competitors, the higher the chances are of open interaction between members, which, in turn, can benefit the rate of innovation and the resulting development of the style. At the same time, the stylistic movement has to be recognized as a group of competitors by the selectors — who are outside the group, except in the rare case of unmixed peer selection — to better enable them to determine the value of the different innovations produced by the members of the movement. As has been argued above, stylistic value is a function of the differences selectors can perceive between the product under consideration and earlier and other products. The more that members of the movement are perceived, by the selectors, to be in competition to provide the most satisfying responses to the same particular brief, the easier it becomes for them to perceive the relevant, and thus valuable, differences. To put it in even stronger terms, by perceiving the members of a stylistic movement as a group of direct competitors, the selectors co-produce not only the stylistic innovations for which the movement will be known but also the stylistic movement itself as an economic entity.

If a 'stylistic movement' consists of a group of actors who appear as competitors to selectors and who consider each other as competitors and not as collaborators — who do not share a group identity to which they feel loyalty, who do not share resources without formal agreements, who do not share goals apart from satisfying the preferences of the selectors — there would be no economic reality to the style of the movement. To give an example outside the cultural sectors: manufacturers of fashionable neckties certainly compete on the basis of stylistic innovation, both in the perception of selectors and in their own perception, but it makes little sense to speak about stylistic movements in tie design, except for taxonomical purposes.

In contrast, a 'stylistic movement' can have a fully developed internal organization-like aspect, but if selectors do not perceive the members of this movement to be in competition with each other, it follows from the definitions proposed here that little economic value is being created by the activities of the group. An example would be a club of people devoted to a hobby, such as needlepoint. If the resulting products' only use is as unwanted birthday gifts, the producers may think that their efforts display ever newer and better designs but there is no stylistic innovation in an economic sense, let alone a stylistic movement in an economic sense. The argument is that, on the basis of the definition of stylistic innovation, stylistic movements can manifest themselves like groups of competitors, similar to firms in an industry, to selectors and like organizations to producers, and that the more pronounced this double identity is, the more the stylistic movement becomes a real entity, in economic terms, and not just a taxonomical device.

The difference between the arguments made here and those by Williamson or Ouchi or Iwai and Itami should be clear. I do not propose to describe stylistic movements in terms of a mix between market or industry and organization or a hybrid or an intermediate form but to describe them as industries from one point of view and organizations from another point of view. This is not an argument for relativism, let alone cultural relativism; the differences caused by the different points of view are not a subjective phenomenon, mainly of interest to psychologists, but economic reality — something which can be studied as objectively as prices and market shares.

Conclusions and Implications

It has been demonstrated in this paper that it is possible to construct definitions of the basic concepts 'innovation' and 'organization' by analysing what these concepts mean in terms of value and competition. New definitions have also been provided for the related concepts 'importance of an innovation' and 'stylistic innovation'. Furthermore, it has been shown to follow from the definitions, and it has been illustrated by a short discussion of the case of the stylistic movement, that whether a group of economic actors should be described as an organization can depend on the point of view of the observer, and that the combination of what the observer perceives and who the observer is can have very real economic consequences. This result is very much in accordance with the point made repeatedly in this paper that one cannot speak meaningfully, in an economic sense, about the value or the identity of entities without taking the relevant selection system into account.

However, the aim of this paper was not to see whether concepts could be redefined using the terminology of selection systems. The construction of the definitions is just a means to the end of providing a robust and internally consistent foundation for further research into innovation and organization.

The arguments made in this paper have many implications that can be tested in further research. It is suitable to conclude the paper by describing a few of these implications. Although the examples given below serve to highlight the central topics of this paper, it should be clear that these are just examples, and that each of these examples could be expanded by taking into account other matters that are significant to the argument presented in this paper, such as the possibility that the actual selection system consists of a number of tiered sub-systems or the role of specific assets that enable competitors to influence selectors, in industries and inside organizations.

The definition of innovation and of the importance of an innovation suggest that the commercial success of an innovator will be correlated to that innovator's ability to identify the relevant selectors and influence not only the outcome of their judgement but also their willingness to evaluate the innovation in the first place. Furthermore, a radical innovation means a change in the composition of the set of selectors, which is rarely to the liking of the old selectors, especially if they are professional experts, dependent on their activities as selectors for their income and status. An unchanging institutional and social environment usually will add to the capacity of selectors to ward off challenges and to preserve the old selection system. Radical innovators will go hungry as long as the new selection system, in which the innovation is recognized as valuable, is not in place. Thus, one could propose the hypothesis that a high level of instability in the institutional and social environment will increase the likelihood that radical innovation will occur and this increase will be greatest if the original selection system is dominated by expert selection.

The definition of organization proposed here states that an organization is characterized by a selection system inside that is different from the selection system in which the organization itself is an actor. It is possible to propose that there is a correlation between the extent of the differences between the selection systems inside and outside on the one hand, and, on the other hand, a measure — for instance, its longevity — of the organizational benefits the organization generates. More specifically, the arguments in this paper would lead to the expectation that small differences have a strong negative effect. Very large differences may well have a negative effect too, because the chances are that organizational members will have less knowledge of the organization and fewer abilities to get the organization to compete effectively in a selection system that is completely strange to them as individuals. Further research would serve to clarify whether an optimal state of difference between the two selection systems can be determined and whether this optimum will shift according to particular environmental circumstances.

Finally, an organization introducing a radical innovation will contribute to changing the selection system in which it competes as an organization, thereby changing the relationship between the selection system inside and the selection system outside, even when the internal selection system remains the same. It would be of great interest to perform further research into the long-term performances of radical innovators and especially to see whether correlations can be established between the characteristics of the selection systems inside and outside, the rate of change in each of these selection systems, and the commercial success and longevity of the innovators.

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